Safety & Health News

AIChE
AMERICAN INSTITUTE OF CHEMICAL ENGINEERS

SAFETY AND HEALTH DIVISION
www.shdiv.aiche.org

FALL 2006

SAFETY FORUM
☞ WE NEED YOU ☜

This issue of *Safety & Health News* contains two excellent reports - one by Bob Benedetti, Chair of the AIChE Safety and Health Division, and one by Jim Kapin, Chair of the ACS Division of Chemical Health and Safety (CHAS). These two Divisions carry primary responsibility for programming on safety and health issues in their respective organizations. Typical of such organizations, volunteers carry a heavy burden to make the Division activities meaningful to the members. Volunteers represent the most valuable resources for the Divisions. Everyone involved in AIChE and ACS recognizes the importance of recruiting, retaining, and, yes, rewarding volunteers. New volunteers are continually needed, as indicated directly or inherently in the two Division reports.

Some Divisional functions are continual and require an effort over a relatively long period of time. Some are relatively time intensive, but require a significantly shorter time effort. Volunteer interests can be matched so that people will do what they prefer with realizable expectations.

The leaders of the Divisions must take responsibility to attract new volunteers. This should be considered as part of their jobs. Volunteers should be provided with clear and specific goals. Specific commitments of time and effort should be defined.

How can you be attracted to commit furthering the work and mission of the Divisions? The personal benefits of such volunteer efforts are many. Expanding communications skills via presentations, broadening professional and personal networks, finding new ideas on job and work-related issues, and learning new solutions to problems are examples.

Regardless of your motivation, there are many volunteer opportunities. If you are motivated by achievement, you will find Division work in a situation where challenging goals are clear, where you can demonstrate your skills, and learn new ones. If you are motivated by power, you can find Division work where you have autonomy, can impact working environment, demonstrate your uniqueness, and earn the respect of others. If you are motivated by affiliation, you will want to work with others, gain their approvals, and feel that you are making a significant contribution. There are numerous opportunities in Division work to enhance your career and enhance the AIChE and ACS. Contact any of the Chairs shown on page 12.

Sam West

Safety & Health News is issued quarterly by the Safety and Health Division of the American Institute of Chemical Engineers (AIChE). It is available on the Division web site: **www.shdiv.aiche.org**. Since news items of interest to members of the Division of Chemical Health and Safety (CHAS) of the American Chemical Society (ACS) are included, this Newsletter is also available on the CHAS web site: **http://membership.acs.org/c/chas/**.

A. S. West, P.E., *Editor*
3896 Sidney Road
Huntingdon Valley, PA 19006
215-938-7181
aswest@worldnet.att.net

AIChE SAFETY AND HEALTH DIVISION UPDATE
BOB BENEDETTI, CHAIR

This report is being put together in mid-August while my thoughts are straying to an upcoming vacation trip. I sincerely hope that you are enjoying your summer and are staying safe.

2007 Loss Prevention Symposium. The Summer 2006 issue of *Safety & Health News* contained the first Call-for-Papers for the 2007 Loss Prevention Symposium to be held April 22-26 in Houston as part of the 3rd Global Congress on Process Safety. Chris Hanauska is Chair of this 41st Annual LPS which is organized by the Safety and Health Division Program Area 11a. An updated Call-for-Papers appears on page 9 of this issue. Six sessions will be held on the following topics: (1) Modeling in Fire and Explosion Protection; (2) Fire, Explosion, and Reactivity Hazards; (3) Facility Siting and Building Design for Explosion Protection; (4) Communicating Expert Knowledge to Technical Communities; (5) Preparing for Natural Disasters and Lessons Learned; and (6) Case Histories and Lessons Learned.

2007 Process Plant Safety Symposium. The 9th Process Plant Safety Symposium, with Phil Myers as Chair, will also be held April 22-26 in Houston as part of the 3rd Global Congress on Process Safety. This symposium is organized by the Safety and Health Division Program Area 11b. An updated Call-for-Papers appears on page 10 of this Newsletter. Six sessions are scheduled as follows: (1) Risk Assessment and Risk Management: New Directions; (2) Safety Instrumented Systems - Identification, Design, and Application; (3) PSM and Risk Training in the 21st Century - Methods, Tools, and Innovations; (4) Assuring Safety in Design and Construction of Process Systems; (5) Security, Vulnerability Assessments, and Mitigation; and (6) Safety Culture - Key to Process Safety Performance.

I happen to be Vice-Chair of one of the LPS sessions and I know that there are openings in most of the sessions in the two symposiums. The deadline for submission of abstracts is October 2, 2006, although this may be extended somewhat. I urge any Division member who has an interest in presenting a paper at either symposium next April to submit a Proposal-to-Present and an abstract as soon as possible.

I also suggest that you talk up the LPS and PPSS to your colleagues. Is there someone you work with who has a case history incident to discuss that has an important lesson to offer in safety and loss prevention? Do you know someone who has been working on a project that involves an unusual hazard or that has resulted in a novel engineering approach to reducing the hazard? Well, we'd like to hear about it. Look over pages 9 and 10 - heed the siren call!

2006 Annual Safety in Ammonia Plants Symposium. As a reminder, the 51st Annual Safety in Ammonia Plants and Related Facilities, organized by the Safety and Health Division Program Area 11c, is scheduled for September 10-14, 2006, at the Hyatt Regency in Vancouver, British Columbia.

Nominating Committee for 2007. The Division Nominating Committee, consisting of Randy Freeman and Dennis Hendershot, will soon be working on a slate of nominees to serve as officers and directors starting in 2007. This past year, we were fortunate to have two candidates for each of the Director slots. We hope to do at least as well this year. If you are interested in serving the Division in a leadership role, please contact either Randy (rafree@yahoo.com or Dennis (dchendershot@comcast.net). Normally, the Division election is held during the final quarter of the year so that the results can be announced in late December.

2007 Walton/Miller Award. Nominees for the 2007 Norton H. Walton/Russell L. Miller Award in Safety/Loss Prevention are solicited. This award recognizes an individual's outstanding chemical engineering contributions and achievements in the loss prevention, safety, and health fields. If you would like to nominate a candidate for the Award, the nomination form can be downloaded from the awards section of the AIChE web site (www.aiche.org). The deadline for submittal for the 2007 award is November 30, 2006. I serve as Chair of the Division Awards Committee, so please contact me at 617-984-7433 or bbenedetti@nfpa.org if you have any questions about the nominating procedure.

Buncefield Tank Fire. Of interest to those of you who deal with bulk storage of fuels and other flammable liquids, the Buncefield Major Incident Investigation Board released the initial report of this massive fire and explosion on July 13, 2006. This report can be found at: www.buncefieldinvestigation.gov.uk/reports/index.htm. Prior progress reports are also on this site. Apparently, none of the conclusions of three prior interim reports have been substantially changed. The report indicates that:

- the cause of the spill and ensuring fire is attributed to overfilling of a tank;
- release of both fuel and the water/foam mixture from firefighting were caused by lack of proper spill containment; and
- uncertainty remains about why explosions that occurred during the vent were so violent.

(continued on page 3 - see Division Report)

DIVISION REPORT (continued from page 2)

Of particular concern was the performance (or lack thereof?) of gauging and overfill prevention systems which has prompted the issuance of safety alerts by the UK Health and Safety Executive. To be sure, both the petroleum and chemical industries are paying close attention to this major incident which has been described as the largest incident of its kind since World War II. Several articles on the fire have appeared in technical publications and journals, including the May/June issue of *NFPA Journal*®. And, it has been, and will likely continue to be, the subject of many future technical publications.

This past June, David White, Editor of *Industrial Fire World*, presented an overview of the Buncefield incident at the June meeting of the Independent Liquid Terminals Association (ILTA), a trade association for owners/operators of bulk tank terminals. His presentation struck a chord with the audience leading to a follow-up meeting planned for September 27-29, 2006, at the Doubletree Hotel - Chicago O'Hare Airport, Rosemont, IL. The session on the second day will focus on Fire Preparedness Training, with lessons learned from Buncefield, as a highlight of the day. This workshop, which will address fire protection fundamentals and what terminal operators need to know about potential explosions, is of interest to anyone responsible for bulk liquid storage. For information about the workshop and registration procedures, see **www.ilta.org**.

In Conclusion. If you have any comments or questions about this Division Report, or if you have an interest in participating more actively in the Division, or if you have some ideas or thoughts related to programming or other activities, please contact me. I would indeed be pleased to hear from members about any Division issues. I can be reached at **bbenedetti@nfpa.org** or **617-984-7433**.

Bob Benedetti

PROCESS SAFETY PROGRESS

Process Safety Progress is published quarterly for the American Institute of Chemical Engineers by Wiley Subscription Services, Inc., a John Wiley Company. The annual Division dues include a subscription to *PSP.* The focus of *PSP* is process safety, loss prevention, risk assessment, and regulatory compliance in the chemical process industries, which include chemicals, hydrocarbons, pharmaceuticals, alternative energies, semi-conductors, and bioprocessing.

Dan Crowl and Joe Louvar, co-editors of *Process Safety Progress*, recently submitted a report covering information about this quarterly journal.

For 2005, 78 papers were received, 43 were published, 16 were rejected, and 19 were either withdrawn or the author provided no response. The sources of the papers were: 19 unsolicited, 16 from Loss Prevention Symposiums, 14 from Plant Process Safety Symposiums, 11 from CCPS Conferences, 10 from the 2005 LNG Symposium, 5 from the Reactive Chemicals Symposium, and 3 from the Ammonia Plant Safety Symposiums.

Of the 43 papers published, 79% were by industrial authors and 21% by authors in academia. There were no papers published in 2005 from government sources. Foreign authors wrote 33% of the papers.

Currently, there is a one issue buffer of papers. To increase the published page count, a larger buffer will be necessary.

High editorial standards continue to be maintained in the peer review process. A representative from the U.S. Chemical Safety Board and a representative from a Canadian organization have recently been added to the Editorial Board to broaden the backgrounds of the peer reviewers.

John Wiley has prepared a CD of back files. No decision has been reached yet as to how this CD will be made available or distributed. ■

WE LOVE E-MAIL ADDRESSES

Most of the Division communications are via e-mail, but each time a document or notice is sent to the members, about 70-75 turn out to be undeliverable, and not always the same 70-75. We all know that it is critical to have the exact e-mail address when sending anything. If you are not sure that AIChE has your current e-mail address, for example, you don't recall receiving in June a notice that the Summer 2006 *Safety & Health News* was available on the Division web site, please send updated information to either Customer Service, American Institute of Chemical Engineers, 3 Park Avenue, New York, NY 10016-5991, or to **xpress@aiche.org**.

FALL 2006 CHAS REPORT
JIM KAPIN, CHAIR, ACS CHEMICAL HEALTH AND SAFETY DIVISION

As I write this, the 232nd ACS National Meeting is almost here. San Francisco meetings are traditionally some of the better attended meetings, and we have an excellent technical program featuring the CHAS Annual Awards Symposium as well as symposiums focusing on biological safety issues in chemistry labs, laboratory ventilation, and the most effective approaches to personal decontamination. CHAS is also participating in the ACS-wide "thematic programming" effort to coordinate multi-disciplinary topics across technical divisions within the society by contributing several papers to the "Recovery from and Prevention of Natural Disasters" symposium organized by the Division of Chemical Education. The CHAS program appears on page 5.

All CHAS programming and activities will be held in the San Francisco Marriott, September 10-14, 2006. I hope all CHAS members, as well as members of the AIChE Safety and Health Division, will make time to attend some of the sessions. I would also like to take this opportunity to invite all CHAS members, AIChE Safety and Health Division members, and anyone else who is interested to attend the CHAS programming lunch scheduled for Monday, September 11 at noon in the Club Room of the San Francisco Marriott. The technical program at National Meetings is probably the most important service offered by CHAS to its members, and I hope everyone will come to the lunch and help shape future meetings.

The CHAS Executive Committee recognizes that in today's economic climate, it can be difficult for many chemists and chemical engineers to attend National Meetings. We are committed to bringing our technical programs and workshops "on the road" to the ACS Regional Meetings held around the country. We have presented workshops ("How to be an Effective Chemical Hygiene Officer," "Laboratory Waste Management," and "Laboratory Safety" by LSI) and technical programming at both the Western Regional Meeting and the Northwest Regional Meeting. We plan to participate in the upcoming Midwest and Southeast Regional Meetings. We are always looking for motivated volunteers to help; anyone who would like to help with CHAS activities at Regional Meetings (or at National Meetings also, for that matter) should contact any member of the CHAS Executive Committee (see page 12).

Outside of technical programming, CHAS is coordinating a variety of efforts to improve safety in chemical laboratories and to support our members. The CHAS Mentor Program seeks to match chemistry students with an interest in chemical safety with a safety mentor who can provide them with information, assistance, and support. We have publicized this program to Student Chapters throughout the country and have had significant interest shown. However, we would love to have more participants. If anyone is aware of students, or even non-students, at an early stage of their careers, please have them contact any member of the CHAS Executive Committee. In addition, CHAS received a grant to support a chemical safety "Speakers Bureau." Any group or organization can apply to have a subsidized speaker present a talk on a variety of safety and related issues.

Beyond the on-going efforts to provide the best technical programming in the areas of chemical and laboratory safety, the CHAS Executive Committee is looking towards the future. In order to continue to improve the quality of technical programming and to attract world-class speakers, we need to improve attendance at our technical sessions. Of course, attendance at National Meetings is closely related to CHAS membership. In order to develop programs which address both attendance and membership, CHAS is developing a set of "key indicators" that can be used to benchmark progress as we try to increase divisional membership and attendance at our sessions during National Meetings. The CHAS Key Indicators address the areas of:

- Divisional Membership;
- Technical Programming at National Meetings;
- Division Finances;
- Workshop Attendance and Financial Performance; and
- Divisional Participation at Regional Meetings.

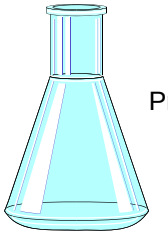
The current members of the Executive Committee will use these indicators to evaluate progress toward the two main goals of increasing membership in the Division and attendance at technical meetings.

It is my hope that the many efforts of the CHAS Executive Committee will continue the growth the Division has experienced in recent years. We are committed to providing the best technical programming possible at Regional and National Meetings, as well as world-class laboratory and chemical safety workshops. We are exploring new ways to market and publicize our programs and are trying to reach out to new audiences. With that in mind, I would like to invite anyone with any comments or thoughts to contact me.

Jim Kapin

[James Kapin, 2006 CHAS Chair, is a Chemical Safety Consultant with Advanced Chemical Safety. He can be reached at **jim@chemical-safety.com** or **619-990-5955**.]

232ND AMERICAN CHEMICAL SOCIETY NATIONAL MEETING
SAN FRANCISCO, CA
SEPTEMBER 10-14, 2006
DIVISION OF CHEMICAL HEALTH AND SAFETY



Program Chair: Stefan Wawzyniecki
University of Connecticut
stefan.w@uconn.edu

SESSION SUMMARIES

Sunday afternoon, September 10: Awards Symposium
Chair: D. B. Walters

"In Pursuit of Excellence in Safety"; "Choosing Wisely: The Emergence of Laboratory Safety"; "Implementation of a Successful K-12 Laboratory Safety Program"; "Study of Secondary Science Safety in Colorado Schools"; "There Can't Be Too much Chemical Safety in a Chemistry Curriculum"; "Developing Engaging Laboratory Safety Training"; "Safety: The Missing Link in Chemical Education"; "Celebrating an Accidental-Free Year"; "IUPAC-UNESCO-UNIDO Safety Training Program."

Monday morning, September 11: "A Focus on Laboratory Biosafety"
Co-chairs: J. G. Palmer and B. J. Wong

"You're Kidding: Is That Biohazardous?"; "Hot Lines in the Vivarium: Biosafety Considerations in Research Animal Care and Use"; "From Atoms to Cells"; Select Agents and Toxins: A Regulatory Obstacle Course"; "Biosecurity or Who's That Knocking On My Door?"; "Juggling Science, Security, and Substance: Biosafety's Impact on the Scientific Community in the Post 9/11 Era"; "International Harmony in the Transport of Biological Material"; "Chemical and Biological Shipping and Export Compliance: Why You Should Be Concerned"; "Legal Pitfalls in Modern Biological Research."

Monday afternoon, September 11: "Laboratory Ventilation"
Co-chairs: J. M. Kapin and D. B. Walters

"Do You Know What You Are Breathing: Chemical Fume Hoods in Research"; "Overview of ASHRAE Standard 110-1995 - Method of Testing Performance of Laboratory Fume Hoods"; "Low Flow versus Conventional Fume Hoods: Can We Claim Equivalent Safety?"; "Scientific Glassblowing Safety"; "Laboratories for the 21st Century - Ventilation Best Practice Guide and Other Tools and Resources"; "Five Big Energy Hits in Laboratories: Ventilation and Fume Hood Options"; "Safety and Energy Considerations of Recommissioning of Existing Laboratory Facilities."

Monday evening, September 11: Poster Session at the Sci-Mix
Co-Chairs: R. W. Phifer and F. K. Wood-Black

"Did You See That? Spot the Hazard in Video"; "Spot the Hazard in the Laboratory."

Tuesday morning, September 12: "Water, Water Everywhere, But Does it Work? A Challenge to the Water Decontamination Procedure" Chair: N. Langerman

"Skin/Eye Decontamination: Past and Present"; "Water, Water Everywhere, But Does It Work"; "Responder Injuries to Skin and Eyes Reported to the Hazardous Substances Emergency Events Surveillance System 2004"; "Systemic Toxicity from Skin Exposures"; "Fundamentals of Dermal Absorption."

Tuesday afternoon, September 12: "Water, Water Everywhere, But Does it Work? A Challenge to the Water Decontamination Procedure" Chair: N. Langerman

"Does Water Work? An Epidemiological Review"; "Evaluation of Comparative Data on Eye/Skin Chemical Splash Decontamination Solutions: Effects on Burn Severity and Healing"; "Principles in Early Eye Decontamination"; "Decontamination Following Exposure to Clandestine Methamphetamine Laboratories."

Sessions Co-Sponsored with Several Other Divisions on "Recovery from and Prevention of Natural Disasters"

Tuesday morning and afternoon, September 12: "Characterizing Flood Waters and Flood Sediments Produced by Hurricanes Katrina and Rita: Implications for the Environment, Human Health, and Cleanup."

Wednesday morning, September 13: "Chemical and Biological Concerns in Post-Katrina New Orleans."

Wednesday afternoon, September 13: "Industry Response."

Thursday morning, September 14: "Local and State Government Response."

Thursday afternoon, September 14: "Government Agency Response." ■

THE CCPS PAGE
CENTER FOR CHEMICAL PROCESS SAFETY

22ND ANNUAL CCPS INTERNATIONAL CONFERENCE

The 2007 CCPS Annual Conference will be part of the 3rd Global Congress on Process Safety scheduled during the AIChE Spring National Meeting in Houston, April 22-26. The Call-for-Papers appears on page 11. The deadline for submittal of abstracts is October 2, 2006.

CHEMICAL REACTIVITY HAZARD TRAINING

A new CCPS product is now available from **www.wiley.com**. The "Chemical Reactivity Hazard Training CD-ROM" is a self-paced educational tool intended to teach people how to recognize and manage reactive chemical hazards. Containing approximately 100 instructional screens with extensive links, graphics, videos, and supplemental slides, this timely, comprehensive CD provides an introduction to the topic, and can be used either as a self-paced tutorial or as an aid in lecture presentation. The CD shows how uncontrolled chemical reactions in industry can lead to serious harm, and introduces key concepts for avoiding unintended reactions. The module concludes with a ten-question information quiz. An extensive glossary and bibliography are directly accessible from any page within the product.
Software - May 2006. ISBN 0-470-036664-8. US $250.00. ■

SACHE NEWS

The Safety and Chemical Engineering (SACHE) program, initiated in 1992, is a cooperative effort between CCPS and engineering schools to provide teaching materials and programs that bring elements of process safety into the education of undergraduate and graduate engineers studying chemical and biochemical processes and products. The SACHE Committee is comprised of representatives from academe and industry in addition to CCPS (AIChE) staff. SACHE is funded by schools and academic departments through an annual membership fee of $300. The membership fees are matched two-for-one by CCPS to a maximum expenditure of $30,000 each year. The membership fee entitles academic institutions access to products developed each year once they are available. Products include methods of calculating the size of relief valves, calculating downwind compositions of chemicals, understanding the flammable and explosive characteristics of chemicals and dusts, inherent safety, and hazards of reactive chemicals.

SACHE also trains younger chemical engineering faculty in total immersion workshops, focusing on the engineering and management challenges of implementing process safety requirements in a working chemical plant.

New products for 2006 include "Dust Explosion Prevention and Control" by J. F. Louvar and R. Schoeff, both of Wayne State University, and "Design of Overpressure and Underpressure Protection" by S. S. Grossel of Process Safety and Design, Inc, and J. F. Louvar of Wayne State University.

The Mary Kay O'Connor Process Safety Center at Texas A&M University recently completed a survey of 180 universities to determine the status of process safety in chemical engineering curriculums in the United States. About 20 universities (about 11% of the chemical engineering departments) have process safety included as part of the core curriculum. An additional 24 universities (13% of the chemical engineering departments) offer a process safety course as an elective. Five universities have plans to introduce process safety in their curriculums in the near future. ■

TRAINING IN CHINA

CCPS is providing process safety training in China during the week of September 11-15. The initial training sessions are to be held in Qingdao, located approximately half-way between Shanghai and Beijing. Training will be offered in Mandarin and English. This week-long event will cover: (1) basic theory of hazards and accidents; (2) mechanisms for fire, explosion, toxic release, and mechanical failures; (3) engineering best practices; and (4) process safety management, including many case studies. Please advise your Chinese operations. Further details can be obtained from Karen Person at **212-591-7319**.

SAFETY NOTES

- In recognition of the tenth anniversary of the National Occupational Research Agenda (NORA), the National Institute for Occupational Safety and Health (NIOSH) hosted the NORA Symposium 2006, entitled "Research Makes a Difference in Washington," at the L'Efant Plaza Hotel in April 2006. Researchers, stakeholders, and policymakers celebrated the completion of the first decade of NORA, marked the 35th anniversary of the Occupational Safety and Health Act, and inaugurated a new decade of NORA research.

- A new National Institute of Environmental Sciences (NIEHS) knowledge system regarding genetic alterations in cancer is now available at **https://dir-apps.niehs.nih.gov/gacl**. This is a comprehensive collection of data compiled from studies in genetic alterations in tumors associated with exposure to specific physical, chemical, or biological agents that can be linked to genes implicated in carcinogenesis. The data are extracted from studies published in the publicly available, peer-reviewed literature.

- The Mary Kay O'Connor Process Safety Center at Texas A&M University recently completed a study entitled "Practical Risk Reduction in the Petroleum Industry." The objective was to summarize the fundamental concepts of practical risk management within the U.S. petroleum industry, and to explore the application of inherently safer design concepts within this context. The objective of the risk management process is to ensure that all operating hazards are properly identified and prioritized based on their potential consequences and likelihood of failure. The complete report resulting from this study is available on the Mary Kay O'Connor Process Safety Center web site: **http://process-safety.tamu.edu**.

- The Board of Certified Safety Professionals (BCSP) and the Council on Certification of Health, Environmental, and Safety Technologists (CCHEST) signed an agreement in July 2006 with OSHA renewing their partnership to enhance the educational and professional expertise of safety professionals. BCSP is a parent organization of CCHEST. BCSP certifies safety professionals, while CCHEST operates certification programs for safety and health practitioners at the technologist/technician and supervisory/managerial levels.

- The OSHA Safety and Health Topics web page has a new look to keep readers abreast of useful and timely information about safety and health in workplaces. It features a new drop down box to choose pages on a specific hazard or industry, and a more detailed "What's New" section. The OSHA web site is: **www.osha.gov**.

- The National Safety Council 2006 Congress and Expo will be held at the San Diego Conference Center in San Diego, CA. The Congress is scheduled for November 3-10, 2006, while the Expo will be held on November 6-8, 2006. This is considered the largest annual event in the world of safety, health, and the environment, with the Expo being ranked among the top 200 tradeshows in the nation. The Congress will contain over 180 technical sessions that extend from broad-based cross disciplines to industry specific topics. Information can be obtained at: **www.nsc.org**.

- About 4,250 high-hazard work sites are on tap under the OSHA 2006 Site-Specific Targeting Program, effective June 12, 2006. The program this year will initially target sites that reported 12 or more injuries or illnesses resulting in days away from work, restricted work activity, or job transfer for every 100 full-time workers (known as the DART rate). The list will also include sites that have a days away from work injury and illness rate of 9 or higher. The program stems from the 2005 Data Initiative of the agency, which surveyed approximately 80,000 employers to attain their injury and illness numbers for 2004.

- OSHA recently published "Best Practices Guide: Fundamentals of a Workplace First-Aid Program," which outlines the four primary elements in designing an effective program. The elements include management leadership and employee involvement, worksite analysis, hazard prevention and control, and safety and health training. The guide is available at the OSHA web site. ■

PAPERS PAPERS PAPERS

"A New American Management Systems Standard in Occupational Safety and Health - ANSI Z10," J.Palassis, P.A.Schulte, and C.L.Geraci, *J.Chem.Health & Safety* **13**, No.1, 20-23 (January/February 2006).

The scope of the ANSI Z10 standard was developed to present occupational health and safety management principles, provide guidance to help organizations enable continuous improvement, enable organizations to integrate occupational health and safety management into their overall business management systems, and to be compatible with relevant worldwide management standards such as ISO 9000 and ISO 14000, and with occupational safety and health management practices in the USA. ANSI Z10 incorporates six elements: (1) management leadership, (2) employee participation, (3) planning, (4) implementation and operation of the occupational safety and health management system, (5) evaluation and corrective action, and (6) management review.

"Decomposition of Energetic Chemicals Contaminated with Iron or Stainless Steel," S.Chervin, G.T.Bodman, and R.W.Barnhart, *J.Hazardous Materials* **130**, No.1-2, 48-52 (March 2006).

This study had the goal of undertaking a systematic study of the impact of iron or stainless steel contamination on the decomposition characteristics of different chemical classes. Differential scanning calorimetry (DSC) was used to study the decomposition reaction by testing each chemical pure and in mixtures with iron and stainless steel. The following energetic substances were investigated: nitrobenzenes, tetrazoles, hydrazines, hydroxylamines and oximes, sulfonic acid derivatives, and monomers. Several relatively non-energetic substances were also investigated, including halogens, hydroxyls, amines, amides, nitriles, sulfonic acid esters, and hydrochloric acid salts. The most sensitive classes are hydrazines and hydroxylamines/oximes where contamination with iron or stainless steel not only destablized them leading to decomposition at significantly lower temperatures, but also causing increased severity of the decomposition. Results with the other classes of chemicals are discussed.

"Kinetics of Acid-Catalyzed Cleavage of Cumene Hydroperoxide," M.E.Levin et al, *J.Hazardous Materials* **130**, No.1-2, 77-106 (March 2006).

The cleavage of cumene hydroperoxide in the presence of sulfuric acid to form phenol and acetone was examined by adiabatic calorimetry. As expected, acid can catalyze cumene hydroperoxide cleavage at temperatures below that of thermally-induced composition. At elevated acid concentrations, reactivity is observed at or below room temperature. The exhibited reactivity behavior is complex. Several reaction models have been explored to explain the behavior as discussed.

"Accuracy of Safety Valve Flashing Two-Phase Mass Flow Capacity Sizing," H.Derlien and L.Friedel, *Chem.Eng.Technology* **29**, No.1, 87-96 (2006).

This paper reviews and evaluates the accuracy of a number of correlations used for sizing of safety valves for flashing two-phase flow. It was determined that the method specified in ISO/CD 4126-10 (2003) exhibits the highest accuracy compared to other models used in industry and academia. It allows for an oversizing of the necessary relief area under all test conditions.

"Preventing Fires and Explosions in Pilot Plants," R.Palluzi, *Chem.Eng.* **113**, No.5, 52-57 (May 2006).

In pilot plants, the issues and complications are different from, and in many ways more challenging than, those for full-scale plants. Pilot plants involve novel operations whose nature and hazards are imperfectly known. Pilot plants frequently switch from one process operation to another. The processes studied in pilot plants are typically still evolving and being modified. The equipment, while somewhat small in size, is often "home-made" and thus less tested and/or less robust than conventional process equipment. Safety issues including fire and explosion prevention require a unique perspective to resolve as discussed in this paper.

"Occupational Health Catagorization and Compound Handling Practice Systems - Roots, Application, and Future," A.W.Ader, J.P.Farris, and R.H.Ku, *J.Chem.Health & Safety* **12**, No.4, 20-26 (July/August 2005).

Chemical categorization of inherent toxicity and potency linked with defined engineering and work practice controls has become an integral component for personnel protection in the pharmaceutical industry. ■

Third Global Congress on Process Safety

CALL-FOR-PAPERS
41ST ANNUAL LOSS PREVENTION SYMPOSIUM
APRIL 22-26, 2007, HOUSTON, TX

The Loss Prevention Symposium, organized by the AIChE Safety and Health Division Area 11a, has been held annually since 1967. To present a paper, please contact the appropriate Chair and submit a short abstract of 200-300 words by **October 2, 2006**. Include the names, addresses, and affiliations of the authors with the abstract. Session chairs will select the papers to be presented and will notify the authors later in the fall.

Symposium Chair	Symposium Vice-Chair
Christopher Hanauska	David G. Clark
Hughes Associates Inc.	DuPont Company
15170 North Point Drive	1007 Market Street
Rogers, MN 55374	Wilmington, DE 19898
763-428-4170	**302-774-8044**
chanauska@haifire.com	david.g.clark@usa.dupont.com

1. MODELING IN FIRE AND EXPLOSION PROTECTION. CFD and similar modeling techniques have been used for characterizing fires and explosions and are being used more frequently for predicting the performance of protection systems. The newest models are able to address more complex geometrics and have diverse uses such as optimizing testing projects, post-explosion forensic analysis, process design, and protection design. Modeling papers on the following topics are invited: gas explosions, venting, suppression, or isolation protection, model development, model validation, and successful model application.

Chair	Vice-Chair
John Going	Daniel A. Crowl
Fike Corporation	MichiganTechnologic. University
704 S. 10th Street	Dept. of Chemical Engineering
Blue Springs, MO 64013	Houghton, MI 49931
816-229-3405	**906-487-3221**
john.going@Fike.com	crowl@mtu.edu

2. FIRE, EXPLOSION, AND REACTIVE HAZARDS. The analysis, prevention, and mitigation of fire, explosion, and reactive hazards continue to be extremely important to the Loss Prevention community. This session invites papers on new research, tools, and methods that identify, characterize, or offer design and operational guidance on fire, explosion, and reactivity hazards.

Chair	Vice-Chair
Brian R. Dunbobbin	Robert P. Benedetti
Air Products & Chemicals	National Fire Protection Assn.
7201 Hamilton Boulevard	One Batterymarch Park
Allentown, PA 18195-1501	Quincy, MA 02169-7471
610-481-6736	**617-984-7433**
dunbobbr@apci.com	bbenedetti@nfpa.org

3. FACILITY SITING AND BUILDING DESIGN FOR EXPLOSION PROTECTION, The siting and design of buildings continue to be critical aspects in providing a safe workplace. A decade ago, the focus was on explosion risks to central control buildings. Incidents in the last few years both in the process industries and on the security front have highlighted the importance of applying these concepts to all occupied structures. New design tools provide greater analysis options and allow for more cost-effective blast resistant designs. Papers addressing the relevant and effective solutions to the problems are invited.

Chair	Vice-Chair
Cheryl A. Grounds	Jean Paul LaCoursiere
BP Exploration & Production	Universite de Sherbrooke
P.O. Box 3092	35 Rue Lemoyne
Houston, TX 77253-3092	Repentigny, QC J6A 3L4
281-366-4740	**450-581-2315**
Cheryl.Grounds@bp.com	jpla@sympatico.ca

4. COMMUNICATING EXPERT KNOWLEDGE TO TECHNICAL COMMUNITIES. This session is primarily intended to help engineers effectively communicate important safety technology within and between companies (hazard communication, product labeling, product stewardship, etc.), but also to improve communications from the technical community to non-technical executives. Papers with the following topics are invited: (a) sources of technical information for plant safety; (b) highlights of recent technology that need better dissemination; (c) highlights of older technology that are neglected; and (d) tools and methods for improving communications in the safety arena.

Chair	Vice-Chair
Lisa Long	Joseph F.Louvar
U.S. Chemical Safety Board	Wayne State University
2175 K Street, NW, Suite 400	Dept. of Chemical Engineering
Washington, DC 20037-1809	Detroit, MI 48202-9988
202-261-7635	**313-577-9358**
lisa.long@csb.gov	jlouvar@eng.wayne.edu

5. PREPARING FOR NATURAL DISASTERS AND LESSONS LEARNED. Process facilities face many and varied natural threats that can impose forces and consequences far greater than the design limits of equipment and controls. Papers are invited that address many of the issues related to natural disasters, including plant siting, design basis selection, rare natural event likelihood and consequence assessments, supply and product chain management, and lessons learned from the 2005 hurricanes and other natural disasters. Natural disaster emergency preparation, response, and recovery are other potential subjects.

Chair	Vice-Chair
Erdem A. Ural	Frank H. (Hank) Gurry
Loss Prevention Science/Tech	Procter & Gamble Company
810 Washington Street, Ste.4	8256 Union Centre Boulevard
Stoughton, MA 02072	West Chester, OH 45069
781-818-4114	**513-634-9572**
erdem.ural@lpsti.com	gurry.fh@pg.com

6. CASE HISTORIES AND LESSONS LEARNED. Papers dealing with incidents, near misses, and the lessons learned are solicited to provide valuable learning experiences. These sessions are among the most popular at the Loss Prevention Symposiums.

Chair	Vice-Chair
Henry L. Febo	Brian Kelly
FM Global	Bririsk Consulting Ltd.
P.O.Box 9102	121 Royal Bay NW
Norwood, MA 02062	Calgary, AB, Canada T3G 5J6
781-255-4771	**403-375-0709**
henry.febo@fmglobal.com	kellybd@telus.net ■

Third Global Congress on Process Safety

CALL-FOR-PAPERS
9TH PROCESS PLANT SAFETY SYMPOSIUM
APRIL 22-26, 2007, HOUSTON, TX

The 9th Process Plant Safety Symposium (PPSS), organized by the AIChE Safety and Health Division Area 11b, is scheduled to be held as part of the Third Global Congress on Process Safety during the 2007 AIChE Spring Meeting in Houston, TX. The PPSS was originally organized by the South Texas Section of AIChE as a stand-alone meeting on a biennial basis, but it was incorporated into the Safety and Health Division programming efforts as part of the First Global Congress on Process Safety, and has been held annually since. To present a paper, please contact the Symposium Chair Phil Myers or the appropriate Session Chair, and submit a 150-300 word abstract by **October 2, 2006**. Include the names, addresses, and affiliations of the authors with the abstract.

Symposium Chair
Philip M. Myers
Advantage Risk Solutions, Inc.
P. O. Box 510
Sunbury, OH 43074
740-965-6304
pmyers@ARiskSolution.com

1. RISK ASSESSMENT AND RISK MANAGEMENT - NEW DIRECTIONS. Innovation continues in the assessment of plant and corporate risks in business terms. Papers highlighting the assessment and risk management of process safety related business risks and successful integration of risk decision making into main stream business processes are desired. Also of interest are success stories in influencing plant management, business leaders, executives, and the public, and in creatively eliminating or minimizing risks.
Chair
Jack Chosnek
KnowledgeOne, Houston, TX
281-538-0220
jc@knowledge1.net

2. SAFETY INSTRUMENTED SYSTEMS - IDENTIFICATION, DESIGN, AND APPLICATION. The identification of Safety Instrumented Functions (SIFs) and the design and proper application of Safety Instrumented Systems (SIS) is an ongoing challenge in the process industries. This session invites papers in the areas of Independent Protection Layer (IPL) identification, Safety Instrumented Function (SIF), Safety Integrity Level (SIL) assignment, and SIS management systems.
Chair
Angela Summers
SIS-Tech Solutions, Houston, TX
281-922-8324
asummers@sis-tech.com

3. PSM AND RISK TRAINING IN THE 21ST CENTURY - METHODS, TOOLS, AND INNOVATIONS. Formal structured methods of training material development are an important aid in setting specific objectives and creating materials that achieve them uniformly in delivery. Advances in technology provide many new avenues for development and implementation of training programs in risk, process safety, and security. Papers are requested that highlight formal methods of training material development and utilization of current technology and media (e.g., CD, internet, intranet, web casting, pod casting) to enhance delivery of training programs through traditional and innovative approaches.
Chair
James Thompson
INVISTA S.à.r.l., Victoria, TX
361-572-2032
james.r.thompson@invista.com

4. ASSURING SAFETY IN DESIGN AND CONSTRUCTION OF PROCESS SYSTEMS. Engineering design and projection execution methods are important components in the development and construction of safer process plants. Case histories that illustrate successful application of best practices here are solicited.
Chair
Vic Edwards
Aker Kvaerner, Houston, TX
713-270-2817
vic.edwards@akerkvaerner.com

5. SECURITY, VULNERABILITY ASSESSMENTS, AND MITIGATION. This session solicits papers regarding security, vulnerability assessments, and innovative and cost-effective mitigation solutions for plant sites, in transportation and distribution operations, and throughout the value chain. New techniques and methods, advances in application of existing approaches, and use of innovative new technologies are of interest.
Chair
John Champion
Rohm and Haas Company, Deer Park, TX
281-228-8265
jchampion@rohmhaas.com

6. SAFETY CULTURE - KEY TO PROCESS SAFETY PERFORMANCE. Building, maintaining, and nurturing a strong safety culture is critical to long-term process safety performance. There are many challenges to ensuring a positive safety culture in business operations at all locations, with additional challenges posed by acquisitions, mergers, and divestitures. This session invites papers demonstrating proactive approaches to assess, build, maintain, and nurture a strong safety culture to achieve process safety excellence.
Chair
Dr. M. Sam Mannan
Mary Kay O'Connor Process Safety Center, College Station, TX
979--862-3985
mannan@tamu.edu

7. CASE HISTORIES AND LESSONS LEARNED. Joint with the Loss Prevention Symposium - see page 9. ■

Third Global Congress on Process Safety

CALL-FOR-PAPERS
22ND ANNUAL CCPS INTERNATIONAL CONFERENCE
ADVANCING PROCESS SAFETY THROUGH DESIGN AND OPERATIONS
APRIL 22-26, 2007, HOUSTON, TX

The 2007 Annual CCPS Conference is again running as part of the Global Congress on Process Safety. The theme is "Advancing Process Safety Through Design and Operations." Abstracts for proposed papers are now being accepted. Early submittals are encouraged. Contact Karen Person at **212-591-7319** or **karep@aiche.org** for further information.. Abstracts must be submitted to the appropriate Session Chair or to Karen Person by **October 2, 2006**.

There are many factors that can affect achieving process safety excellence. Some of these include sound process design adhering to current engineering standards, codes, and practices; employing inherent safety approaches for new designs; ensuring ongoing mechanical integrity with effective preventive maintenance, inspections, and turnaround programs; identifying hazards and managing their risk using passive, active, and administrative safeguards; and implementing management systems to drive operations, stability, and health, safety, and environmental performance.

At the CCPS 2007 Annual Conference, papers will discuss and explore the most current thinking and approaches as demonstrated through case histories and lessons learned. Please add your voice to this discussion by submitting an abstract of a proposed presentation.

The Conference will include the following topical areas:

- **Risk-Based Process Safety and Risk Tolerance Criteria.** Session Chair: Lisa Morrison, PPG Industries, lmorrison@ppgcom
- **Process Safety Management Systems.** Session Chair: Steve Meszaros, Wyeth Pharmaceutical, MESZARS@wyeth.com
- **Inherent Safety.** Session Chair: Dan Wiff, Nova Chemical, wiffd@novachem..com
- **Standards, Codes, and Regulations, and Criteria for Retroactive Implementation.** Session Chair: Shakeel Kadri, Air Products, kadrish@apci.com
- **Reliability and Process Safety including Mechanical Integrity, Risk-Based Process Safety, and Turnaround Considerations.** Session Chair: John Herber, 3M, jwherber@mmm.com
- **Relief and Header Design.** Session Chair: Dan Isaacson, Lubrizol, deis@lubrizol.com
- **Safety Instrumented Systems.** Session Chair: Tim Overton, Dow Chemical, toverton@dow.com

The Center for Chemical Process Safety was formally chartered by AIChE on March 25, 1985, following a preliminary discussion with 17 senior executives from 13 major chemical and petroleum companies. While the immediate driving force was the Bhopal incident of December 1984, CCPS in concert with industry envisioned a broad and far reaching mission to advance the state-of-the-art process safety technology and management practices. Annual international conferences represent one of the many programs established by CCPS to accomplish the continuing mission. ■

51ST ANNUAL SAFETY IN AMMONIA PLANTS SYMPOSIUM

The 51st Annual Safety in Ammonia Plants and Related Facilities Symposium, organized by the Safety and Health Division Program Area 11c (Ammonia Committee), is scheduled for **September 10-14, 2006**, at the Hyatt Regency in Vancouver, British Columbia, Canada. Presentations will cover issues of safety interest in plants to manufacture ammonia, urea, nitric acid, ammonium nitrate, and methanol. Papers will include concrete ideas on how to avoid or manage potential plant incidents, how to solve safety issues, and overviews of procedures and products that can be used to ensure safety measures. International speakers are included in this popular symposium. For more information, see **www.aiche.org/conferences**.

AIChE SAFETY AND HEALTH DIVISION 2006

Robert P. Benedetti, Chair
National Fire Protection Association
bbenedetti@nfpa.org

Ronald J. Willey, 1st Vice-Chair
Northeastern University
r.willey@neu.edu

Robert W. Johnson, 2ns Vice-Chair
Unwin Company
rjohnson@unwin-co.com

Albert I. Ness, Secretary/Treasurer
Rohm and Haas Company
aness@rohmhaas.com

DIRECTORS

Peter N. Lodal (2004-2006)
Eastman Chemical Company
pnlodal@eastman.com

Katherine E. Pearson (2004-2006)
Rohm and Haas Company
katherinepearson@rohmhaas.com

David G. Clark (2005-2007)
DuPont Company
david.g.clark@usa.dupont.com

Jean-Paul LaCoursiere (2005-2007)
Universite de Sherbrooke
jpla@sympatico.ca

Cheryl A. Grounds (2006-2008)
BP Exploration & Production, Inc.
cheryl.grounds@bp.com

Lisa Long (2006-2008)
U.S. Chemical Safety Board
lisa.long@csb.gov

PROGRAM COORDINATOR

Christopher Hanauska
Hughes Associates, Inc.
chanauska@haifire.com

AWARDS COMMITTEE

Robert P. Benedetti, Chair
(see Chair)

WEBMASTER

Daniel A. Crowl, Chair
Michigan Technological University
crowl@mtu.edu

MEMBERSHIP COMMITTEE

Joseph F.Louvar
Wayne State University
josephlouvar@yahoo.com

John F. Murphy
hamjfm@earthlink.net

GOVERNMENT RELATIONS

Randy Freeman
S & PP Consulting
rfree@yahoo.com

EDITORS - *PROCESS SAFETY PROGRESS*

Daniel A. Crowl
(see Webmaster)

Joseph F. Louvar
(see Membership Committee)

AIChE STAFF LIAISON

Anette Ngijol
anets@aiche.org

LIAISON TO ACS CHAS DIV.

Dennis C. Hendershot
dchendershot@member.aiche.org

CCPS LIAISON TO DIV.

Karen E. Person
AIChE/CCPS
karep@aiche.org

ACS DIVISION OF CHEMICAL HEALTH AND SAFETY 2006

Jim Kapin, Chair
Advanced Chemical Safety
jim@chemical-safety.com

Barbara L. Foster, Chair-Elect
West Virginia University
bfoster@wvu.edu

Ralph Stuart, Secretary
University of Vermont
rstuart@uvm.edu

Neal Langerman, Treasurer
Advanced Chemical Safety
neal@chemical-safety.com

Russ Phifer, Past-Chair
WC Environmental, LLC
rphifer@glasmesh.com

MEMBERS-AT-LARGE

Ken Fivizzani (2006)
Nalco Company
kfivizzani@nalco.com

COUNCILORS

Eileen B. Segal (2007)
ebsegal@aol.com

Kathryn Benedict (2008)
Pfizer Global R&D
kathryn.benedict@pfizer.com

ALTERNATE COUNCILORS

Frankie Wood-Black (2007)
Conoco Phillips
Frankie.K.Wood-Black@
conocophillips.com

George H. Wahl, Jr. (2008)
North Carolina State University
george_wahl@ncsu.edu

EDITOR, *JOURNAL OF CHEMICAL HEALTH & SAFETY*
Henry J. Elston
helston@bigfoot.com

PROGRAM COMMITTEE

Debbie M. Decker (Spring)
Univ. of California - Davis
dmdecker@ucdavis.edu

Stefan Wawzyniecki (Fall)
Univ. of Connecticut
stefan.w@uconn.edu

AWARDS

Douglas Walters
KCP, Inc.
waltersdb@earthlink.net

PUBLIC RELATIONS

Wayne Brown
Loyola University
wbrown@loyno.edu

LONG RANGE PLANNING

Laurence Doemeny
ldoemeny@cox.net

SPEAKERS' BUREAU

James Kaufman
The Laboratory Safety Institute
labsafe@aol.com

WEB AND E-MAIL ADMINISTRATOR

Ralph Stuart
University of Vermont
rstuart@uvm.edu